

PATENT CLAIMS

1. A hearing prosthesis comprising
 - a microphone adapted to generate an input signal in response to received
 - 5 acoustic signals,
 - a data processor adapted to process the input signal in accordance with a predetermined processing algorithm to generate a processed output signal,
 - an output transducer for converting the processed output signal into a user perceivable output signal,
 - 10 rechargeable battery connections adapted to receive a rechargeable battery and operatively connected to battery charging means, and
 - connecting means for releasable connection to an external power source to provide charging power for the rechargeable battery,
 - characterized in that**
 - 15 the hearing prosthesis comprises memory means storing charging control information associated with charging the rechargeable battery.
2. A hearing prosthesis according to claim 1, wherein said memory means comprise non-volatile memory means.
- 20 3. A hearing prosthesis according to claim 1 or 2, wherein said memory means are operatively connected to said data processor.
4. A hearing prosthesis according to claim 3, wherein said memory means are
- 25 arranged to contain instructions defining the predetermined processing algorithm.
5. A hearing prosthesis according to any of the preceding claims, comprising data communication means for releasable establishing data communication with an external unit.

6. A hearing prosthesis according to claim 5, wherein the memory means is arranged to communicate charging control information to the external unit by means of the data communication means, and the prosthesis comprises connecting means for connecting an externally provided charging current to the rechargeable battery connections.
7. A hearing prosthesis according to any of claims 1-5, wherein the data processor is adapted to provide charging control instructions to control the operation of charging current regulator means in accordance with the charging control information so as to control a charging cycle of the rechargeable battery.
8. A hearing prosthesis according to claim 7, wherein the data processor is arranged to communicate charging control instructions to the external unit by means of the data communication means, and the prosthesis comprises connecting means for releasable connecting an externally provided charging current to the rechargeable battery connections.
9. A hearing prosthesis according to any of the preceding claims, comprising charging current regulator means and connecting means for releasable connection of an external charging power supply to the charging current regulator.
10. A hearing prosthesis according to claim 9, wherein the memory means is arranged to communicate charging control information to the external unit by means of the data communication means and the charging current regulator means is arranged to receive charging control instructions from the external unit by means of the data communication means.
11. A hearing prosthesis according to claim 9 or 10, wherein the charging current regulator means comprises a resistor and processor controllable switch element such as bipolar or MOS transistor.

12. A hearing prosthesis according to claim 9 or 10, wherein the charging current regulator means comprises a pulse width modulator for controlling a magnitude of a charging current applied to the rechargeable battery.
- 5 13. A hearing prosthesis according to any of the preceding claims, comprising means for recurrently storing data related to the charging and de-charging of said rechargeable battery in said memory means.
- 10 14. A rechargeable hearing prosthesis system comprising:
a hearing prosthesis according to any of claims 1-13,
a charger unit having connection means for establishing releasable connection to the connection means of the hearing prosthesis and means for providing charging power via said connection means.
- 15 15. A rechargeable hearing prosthesis system according to claim 14, wherein
the hearing prosthesis comprises data communication means for releasable establishing data communication with the charger unit, and
the charger unit comprises a charger data communication means adapted to releasable establish data communication with the data communication means of the
20 hearing prosthesis.
- 25 16. A rechargeable hearing prosthesis system according to claim 15, wherein the data processor of the hearing prosthesis is adapted to provide charging control instructions to control the operation of charging current regulator means in accordance with the charging control information and communicate said charging control instructions to the charger unit by means of the data communication means, and the charger unit is adapted to receive the charging control instructions from the hearing prosthesis and provide a charging current to the hearing prosthesis via the charger unit connection means by means of a charging current regulator means.

17. A rechargeable hearing prosthesis system according to claim 15, wherein the hearing prosthesis is adapted to transmit the charging control information to the charger unit by means of the data communication means, and the charger unit is adapted to receive the charging control information from the hearing aid, the charger
5 unit comprising a charging current regulator adapted to provide a charging current to the hearing prosthesis via the charger unit connection means, and charging control means adapted to control the operation of the charging current regulator means based on the received charging control information.
- 10 18. A rechargeable hearing prosthesis system according to claim 17, wherein the charging control means of the charger comprises a microprocessor adapted to control the charging current regulator means and/or the charger data communication means.
- 15 19. A rechargeable hearing prosthesis system according to claim 17 or 18, wherein the charging control means comprises a detection circuitry for sensing whether or not a hearing prosthesis is connected to the charging circuitry.
- 20 20. A rechargeable hearing prosthesis system according to claim 19, wherein the charging control means of the charger comprises a default charging procedure for charging the rechargeable battery of the hearing prosthesis in case invalid or no
charging control information is received.
- 25 21. A rechargeable hearing prosthesis system according to any of claims 16-20, wherein the charger unit comprises DC voltage measuring circuitry for determining the DC voltage of a rechargeable battery of a hearing prosthesis connected thereto, and the charging control means is adapted to control the charging procedure based on the measured DC voltage.
- 30 22. A rechargeable hearing prosthesis system according to any of claims 14-21, wherein the charger unit comprises a battery compartment adapted for holding one or

more batteries to power the charger unit during charging cycles of a hearing prosthesis connected thereto.

23. A rechargeable hearing prosthesis system according to any of claims 15-22,
5 wherein the charger unit is adapted to reset the data processor of the hearing prosthesis by a command sent via the data communication means.